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THE HISTORY OF THE THING

THE RELATION OF THE RAW
PRODUCT TO THE FINISHED
MATERIAL : : : : : :

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THEY gave it the name in Benjamin Franklin's time, one hundred years or more ago, when the only use which was made of the substance was to rub out pencil marks. The designation of this one insignificant use has been applied to the entire product of the article.

Whatever used for, whether it rubs or does not rub, it's all rubber. A curious bit of word making here. Some of the Shakespearian cipher discoverers ought to study up on rubber. "What's in a name?" "Ay, there's the rub." The native name is Caoutchouc.

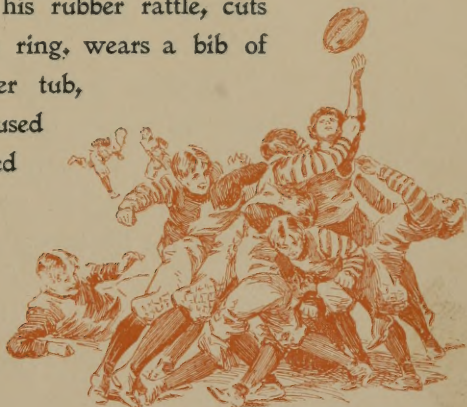
Don't try to say it—just sneeze.

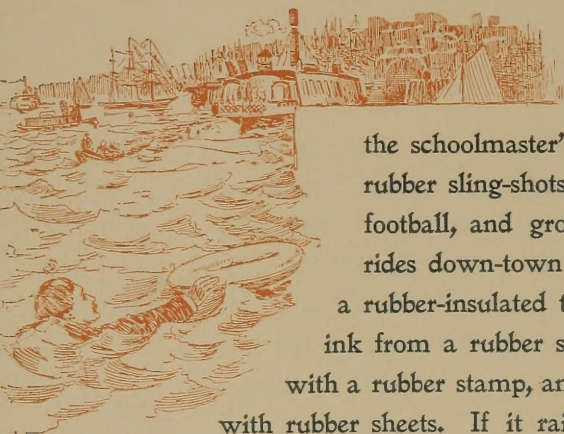
Note the change of a century, This is an age of rubber. From infancy all through life we depend upon it at every turn, make use of it in a thousand and one ways. Young America drinks

his milk from a bottle with a rubber nipple, stares in wonder at his rubber rattle, cuts his teeth on a rubber ring, wears a bib of

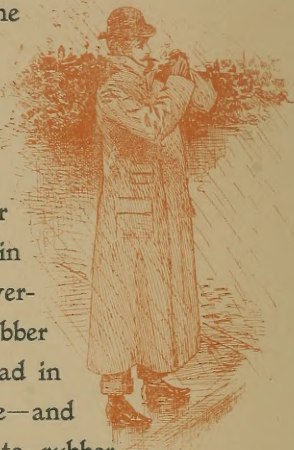
rubber, is bathed in a rubber tub, combed with a rubber comb, amused with rubber toys by day, and tucked into his little rubber bed by night.

If he survives the chastening of

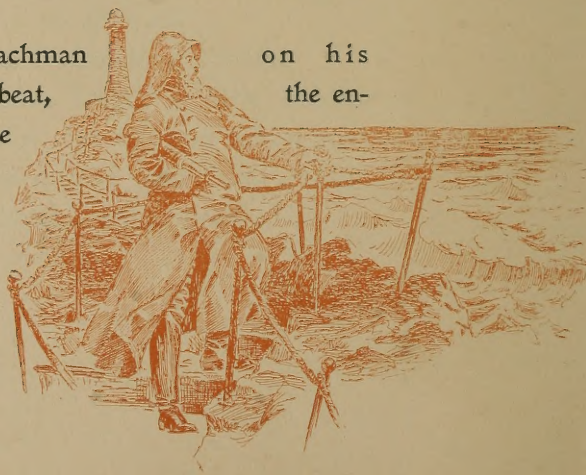




the schoolmaster's rubber ruler, the hazard of rubber sling-shots, and the casualties of rubber football, and grows to be a business man, he rides down-town on a rubber tire, talks through a rubber-insulated telephone wire, dips his ink from a rubber stand, signs his name with a rubber stamp, and copies his letters with rubber sheets. If it rains he dons his rubber hat, coat and shoes, lights his cigar from its rubber case with match from a rubber safe, wipes his feet on a rubber mat, presses the rubber bell-button, and Bridget, with rubber hair-pins in her hair, opens the door for him. If he falls over-board from the ferry-boat, they heave him a rubber life-preserver. If his house takes fire, firemen clad in rubber turn on the water from a rubber hose—and rubber saves his home. In old age, he takes to rubber cushions, and in a cosey corner where rubber weather-strips shut out the draught, he plays a quiet rubber of whist. He wards off rheumatism with rubber hot-water bags; then makes his last will and testament, and fastens it with a rubber band.



Rubber protects the coachman on his box, the policeman on his beat, the engineer in the swamps, the steamship captain on the bridge, the life-saving patrol

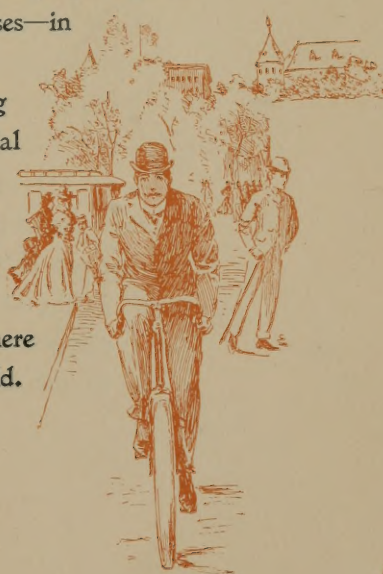
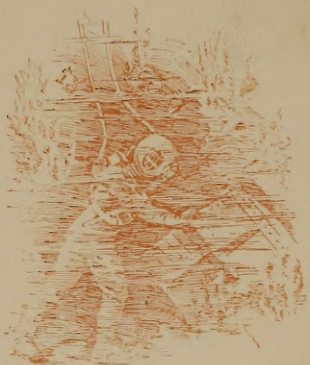


on shore, the soldier in camp, the miner in the coal-shafts, the diver in the depths of the sea. A woman does up her hair with a rubber comb; rubber belting turns a million factory wheels. This

is hardly a beginning of what can be told about rubber. Suspenders, soap cups, cuspidors, coin-mats, buffers, drinking-cups, wagon springs, wringing machines, toy monkeys—barely to name the things made of rubber would be to make a surprising catalogue of the necessities and conveniences, the comforts, luxuries and refinements, of our every-day life.

This is indeed the rubber age. It is a day of development. Civilization and rubber go hand in hand. You may determine a people's place in the scale by the amount of rubber it uses—in particular by its rubber dress-goods.

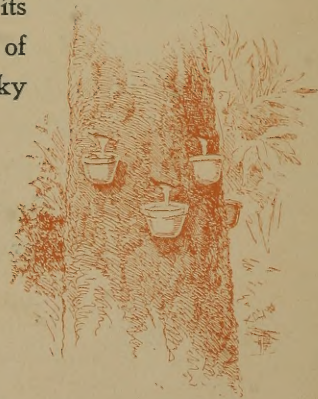
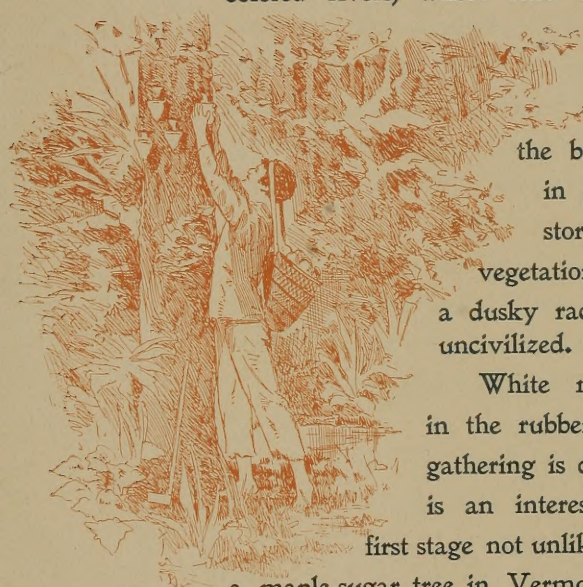
The rubber trade is one of the leading industries of the world. The raw material is exported chiefly from tropical countries, the rubber belt stretching for five hundred miles on either side of the equator around the globe. Our chief sources of supply are Africa, Central America and Brazil, where Para is the great rubber port of the world.



Prosaic and unpoetical as may appear a chunk of Para rubber, it is of romantic origin. It comes to us from the country of the Amazon, in whose vast, mysterious forests the rubber tree contrasts its glossy foliage with the frondage of feather palms, where swinging lianos droop over wine-colored rivers, where rare orchids glow in the hushed

twilight, gorgeous butterflies flit in the sunlight, birds with wings of fire flash amid the branches, and monkeys scream in prognostication of the coming storm. It is a land of strange vegetation and of yet stranger people, a dusky race, untamed, independent and uncivilized.

White men cannot live and labor in the rubber land, therefore the work of gathering is done by natives. The process is an interesting one, in its first stage not unlike the tapping of a maple-sugar tree in Vermont. The milky juice or sap of the caoutchouc tree is contained in the middle layer of the bark. In the evening a deep horizontal incision is made in the bark, at a point near the



base of the tree; then a vertical slit is cut above, with other oblique incisions leading into it. Little shallow clay dishes that have been baked in the sun are fastened to the tree below these cuts, being secured to the trunk with soft clay. During the night the sap flows into the vessels and in the morning it is collected. Here the resemblance to maple-sugaring ceases. A wooden paddle with a handle about three feet long is dipped into the liquid caoutchouc, withdrawn, and held over a

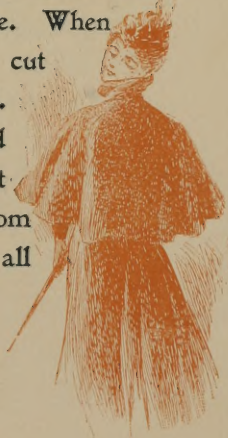


vessel in which certain kinds of nuts are brewing, the smoke of which causes certain ingredients of the sap to evaporate, while the milk coagulates in a thin shell on the sur-



Rubber Biscuits.

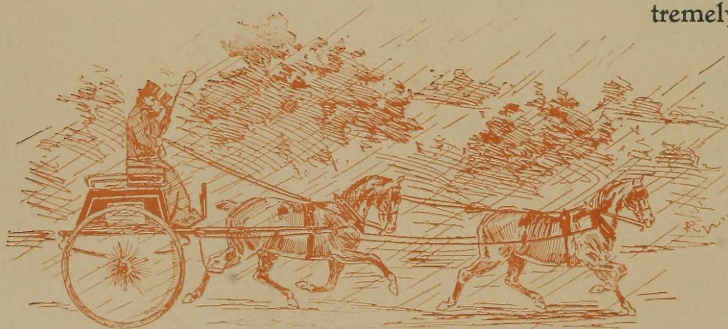
face of the paddle-blade. The paddle is dipped again and again, and dried, and the operation is repeated until the deposit of caoutchouc on the blade has formed a ball or biscuit too heavy to handle. When this deposit is of the required size, it is cut open, and the paddle blade or mould removed. The biscuit of rubber is then hung up and dried, and is ready for shipment. Care must be taken to keep the rubber sap free from impurities, and from this very first stage, all



through the processes of its industrial treatment, each successive step must be attended with extreme care. There is rubber, and rubber. The quality depends upon the make.

It is a curious fact—and it illustrates Solomon's wise saw that there is nothing new under the sun—that almost the earliest recorded mention of rubber is of its use as a protection from rain. Torquemada, the Spanish historian who wrote in 1615, tells us that the soldiers in the New World smeared the juice of a certain tree on their cloaks to render them waterproof. Strange, is it not, that from that date to this the world should have waited over two centuries for the application of that old idea to a practical utility? The highest perfection of the manufacture of rubber in all its variety of forms has been attained in our own day in the adaptation of it to the waterproofing of the wearing apparel known as the HODGMAN MACKINTOSH.

The evolution of the rubber waterproof of to-day—
light, convenient, stylish, effective—was extremely slow, even
after the problem of producing it had been taken up in



earnest. The early attempts—by early we mean at a period not prior to the 70's—were crude; and many a failure was recorded before there was provided what was considered, at that day, a practicable garment. Those first productions were not only unsightly, but they were malodorous as well; and because the material was improperly prepared, they were easily rendered

hard or soft by changes of climate.

The first material used was common heavy sheeting, which was coated with a black rubber surface. When a person put on one of these heavy coats, he found the weight intolerable, the looks unbearable, and the wearing unsatisfactory. Even when lighter cloths were used, and fancy linings were adopted

for the inside, the makers seemed to think that a rubber garment, unlike every other one worn by civilized men and women, need have no style, shape, nor fit. Under such conditions waterproof garments failed to find



Old Style Water Proof.



A quiet Rubber of Whist.



a very popular favor. They were articles of dire necessity reluctantly assumed on occasion; but that was about the most that could be said for them.

Even the imported mackintosh

or double texture water-proof was but a partial

improvement. This was composed of an outer surface of cloth, then a layer of india rubber, and then an inside lining of fancy cloth. But the slouchy appearance of the sack-like cut and the intolerable odor due to the improper foreign vulcanization were sufficient objections to pre-

Rubber Gloves.

"Foreign mackintoshes became stiff and hard."

vent a general adoption of the imported goods.

Moreover, it was found that after being in this country a few weeks the foreign mackintoshes either became stiff and hard, or fell apart at the seams, and were then of course absolutely worthless.

The American climate did not agree with them. This was

Rubber Camping Outfit.

just as well, for, as the event proved, American ingenuity and enterprise were amply competent to cope with the problem, and to supply to Americans American-made goods, of a quality unequaled in the world.

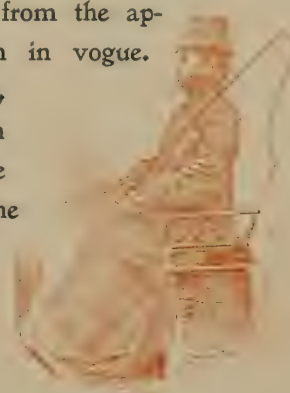
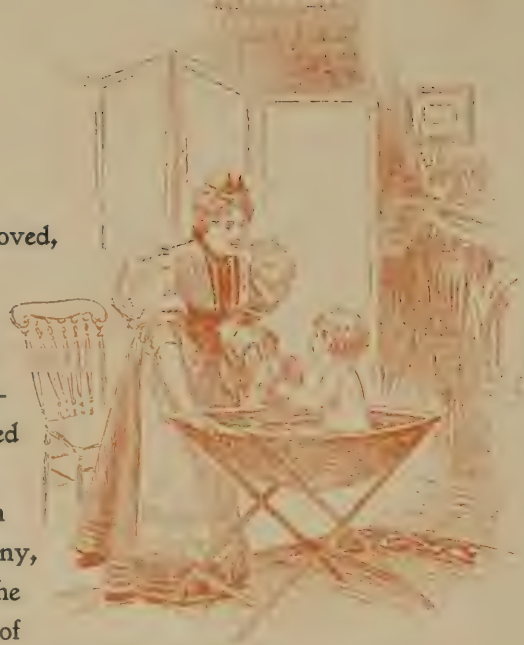
The Hodgman Rubber Company, who were the successors of the firm founded by

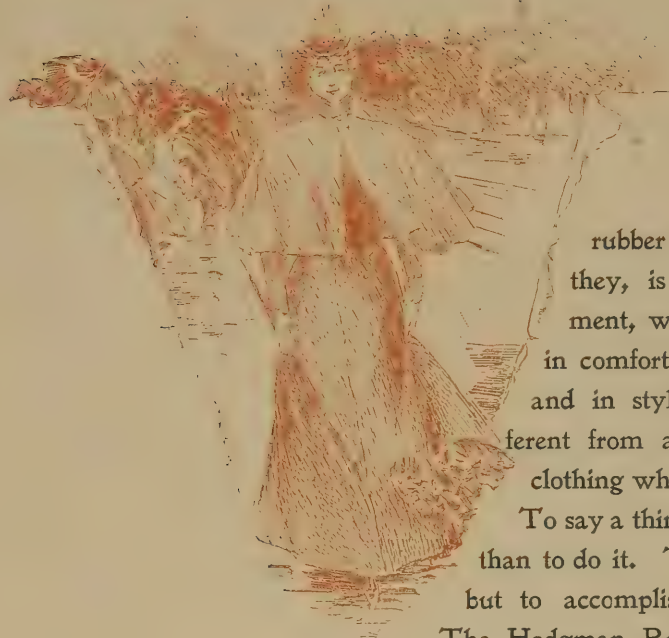
Rubber Bath Tub.

Daniel Hodgman in 1838, and who had attained a position of pre-eminent leadership among the rubber manufacturers of the United States, had been makers of the old-style garments; and they had improved these in lightness, fit and finish, so far as such improvement could be made without a radical departure from the approved methods then in vogue.

But there came a time, about ten years ago, when the Company resolved to create

Rubber Drinking Cup. a complete revolution in the manufacture of rubber apparel. The ideal





rubber coat or cloak, said they, is a waterproof garment, which in appearance, in comfort of wear, in quality and in style, shall not be different from any other high-grade clothing which is not waterproof.

To say a thing is sometimes easier than to do it. To resolve is simple; but to accomplish, there is the test.

For Walking

The Hodgman Rubber Company did not succeed at first. It was not an easy thing they had undertaken; had it been, their subsequent triumphant success would not so have set them apart from, and in advance of, all the other manufacturers of rubber garments in the world. For, devising now one expedient and then another, overcoming each new obstacle as it presented itself, they at last produced the result they had set out to gain—the perfect HODGMAN MACKINTOSH of to-day.

The first step was to find a remedy for the four defects then existing in all rubber clothing—the unpleasant odor, the want of pliability, the ungainliness, and the propensity to wet through. The first two faults



After the Storm.



were overcome by the adoption of a new and careful system of vulcanization. Quality thus assured, now for looks, and for a system of making by which the completed goods should be absolutely impenetrable by moisture.

To secure tastefully designed, well put together, stylish and becoming waterproof clothing, they did precisely what the manufacturers of other clothing do: they engaged the best workmanship procurable in the clothing trade, the most artistic designers, and most skillful cutters and operators. Under the system thus introduced, every garment is carefully planned and made, every seam as carefully stitched, and the entire work as neatly done as in the finishing of an expensive overcoat or a costly cloak.

The requirements of good taste having been met, but one more essential remained; that was to make the garment absolutely dry. Before this, no matter how carefully





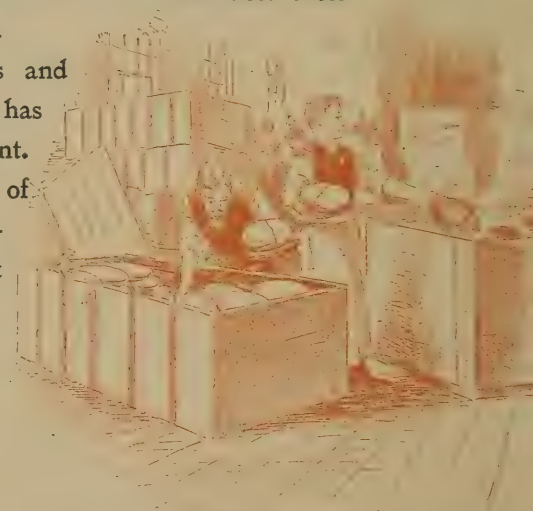
Golf Cape

a sewed waterproof coat might be made, it would admit moisture at the seams; capillary attraction would lead it through the threads of the stitches. To remedy this in the HODGMAN MACKINTOSH the seams are completely covered on the inside by a process which makes them absolutely watertight. Simple? Yes; so was Columbus's egg. "Simple," when you think of it. It's the thinking that's genius. It's the conception and application of one "simple thing"

after another that has made the HODGMAN MACKINTOSH different from all others under the sun.

Odorless, light and pliable, comfortable to wear and pleasing to the eye, perfectly waterproof,—these are the qualities which distinguish the Hodgman goods, which make them an absolute protection for the daintiest dress goods they are worn to shield.

With the old drawbacks and objections removed, the public has taken up the rubber garment. Fashion has stamped the seal of her approval upon the Hodgman Mackintosh. To wear it is good form. It is the wet weather dress of those who



Unpacking the Rubber.

care for their personal appearance and for the comfort of themselves and others.



If we follow the crude rubber from the forest to the factory, we shall find there an interesting study of its gradual development, through a series of processes, from the biscuit form to the perfected article of dress.

When the cases of rubber are opened, the experienced unpackers handle it with precisely as much caution as they might observe in the rubber forest itself, for centipedes and other unlovely creatures of the Tropics are often brought to the factory with the rubber cargoes, and after their involuntary journey of thousands of miles they are quite as lively, pugnacious, and deadly as in Brazil.

The first care in the factory is to cleanse the material of all impurities. It is put through a crushing machine, whose rollers tear it apart; and the operation is repeated in vary-





Waterproofing the cloth.

ing forms until
the product is
perfectly pure
and consistent.
It is softened by
the admixture of

ingredients which reduce it to a dough. This dough is spread upon the rollers of a heavy calendering machine, between which is passed the cloth to be treated, and as the fabric passes between the rollers the rubber adheres to it. The product is a long piece of cloth, upon one side having a coating of rubber gum, which is so nicely and so evenly adjusted as to be perfectly proof to moisture.

The next process sees this cloth run through other rollers, which press upon the gum side another piece of cloth—the fancy inner lining; and when this comes from the machine, we have a piece of goods consisting of three distinct layers—the outside cloth, the rubber, the inside cloth. It is a fabric which is solid, firm and strong, yet as soft, as pliable, and as durable as was the original cloth.

The material is then vulcanized by the novel Hodgman process, to which allusion has been made, and the goods are ready to be made up.



The Hodgman Mackintosh Factory is in effect an immense and perfectly equipped clothing factory, with cutting rooms, sewing rooms, and finishing rooms; and the industry is managed on the approved lines of a great clothing establishment of the best class. The one distinctive feature, however, is the extreme care exercised to prevent the unnecessary pricking of the cloth with needle-holes, for every needle-hole means a tiny aperture which the moisture will search out and find.



Finally comes the distinctive process employed in the Hodgman factory, by which the seams themselves are water-proofed; and the beautiful garment is delivered in its perfected condition, ready for the wearer.

The output of the factory is as varied as it is extensive. Whatever may be the prevailing fashion in cloth goods as to pattern or style, for ladies or for gentlemen, it is reproduced



in the Hodgman Mackintosh, and so reproduced that the presence of the rubber in it is known only by the service it performs.

The high qualities of the Hodgman Mackintosh have made it famous. The name is known throughout the United States. Wherever a garment is found bearing the name of HODGMAN, it may be depended upon as a perfect piece of work. Hodgman goods are the standard. That is true, not only of the Hodgman Mackintosh, but of every rubber product that bears the Hodgman mark; for in their notable success with the Hodgman Mackintosh, the firm have only repeated in a new field their achievements in every branch of the rubber trade.

And so, after all, is not the most interesting and instructive part of our little booklet the testimony it affords anew that American ingenuity and enterprise and business acumen may always be relied upon to supply to Americans American-made goods which are the most perfect productions of industrial processes?

A Hodgman Mackintosh is a garb which Columbia herself or Uncle Sam might be proud to wear in a pelting rain.



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MAY BE FOUND AT ANY
FIRST CLASS ESTABLISHMENT
IN THE UNITED STATES.
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